



Armed Forces College of Medicine AFCM





Neoplastic Diseases of Pancreas & biliary Diseases



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**By the end of this lecture you will
be able to:**

- Describe pathologic features of common exocrine pancreatic tumours (serous ,mucinous cystadenomas and ductal carcinoma)
- Correlate pathologic features of ductal pancreatic carcinoma with its clinical picture and complications
- Enumerate causes of peritonitis
- Describe pathology of mesothelioma
- Define pseudomyxoma peritonii

Lecture Plan

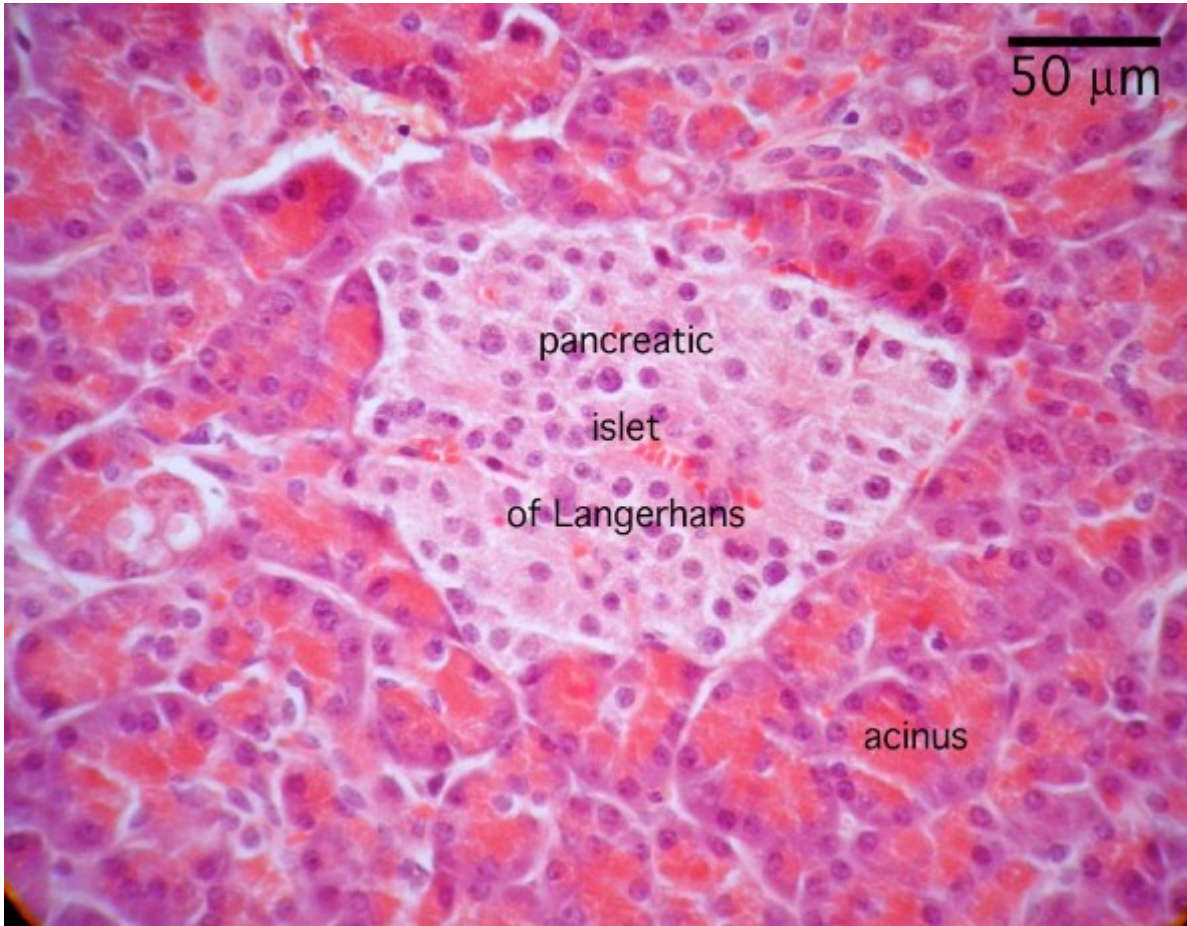


1. Part 1 (10 min): Classification of Pancreatic tumours & cystic tumours
2. Part 2 (20 min) : Pancreatic carcinoma
3. Part 2 (15 min): Peritoneal diseases
4. Lecture Quiz (5 min)

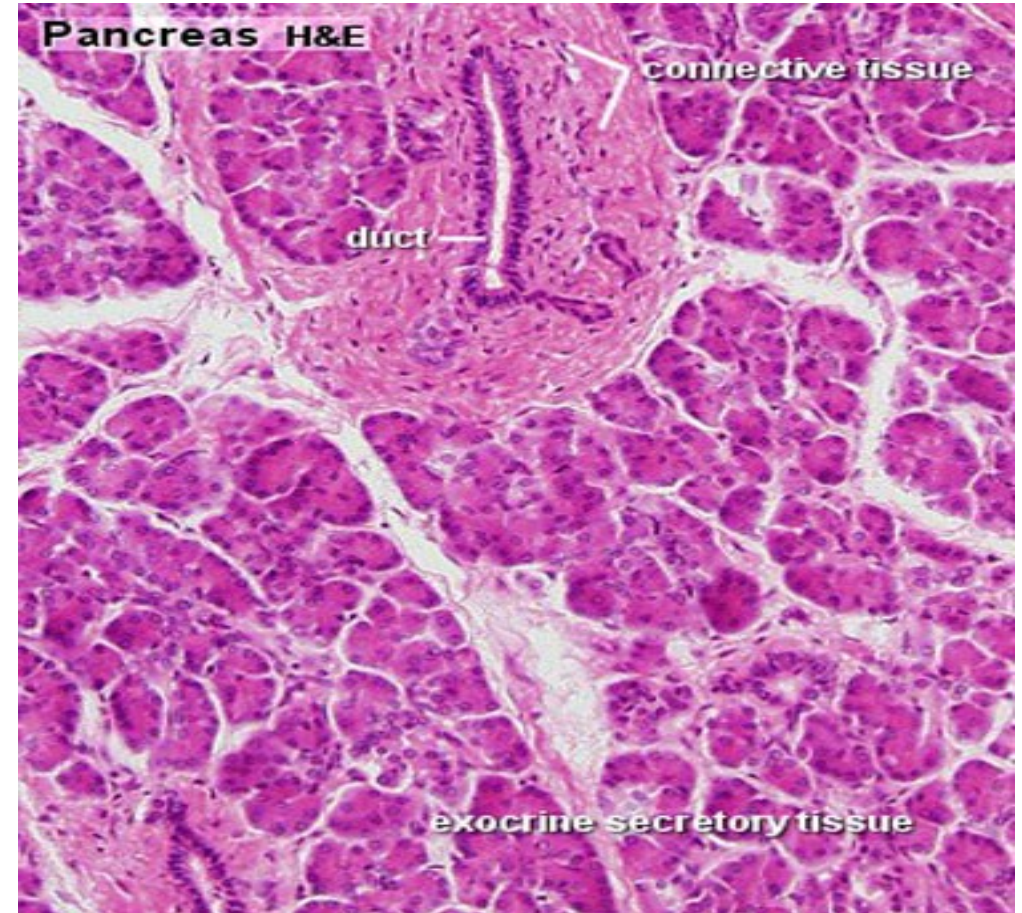
Pancreatic Histology



Remember



<https://i.pinimg.com/originals/44/49/5b/44495b562ca252d9ced10f7d88fba00a.jpg>



https://embryology.med.unsw.edu.au/embryology/images/0/05/Pancreas_histology_001.jpg

Tumours of Pancreas



Exocrine Tumours

I. Cystic Tumours : eg

a. Serous

Cystadenomas

b. Mucinous Cystic Tumours

II. Ductal Adenocarcinoma

Endocrine Tumours

Gastrino
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→ Gastr
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Glucagono
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Tumours of Pancreas

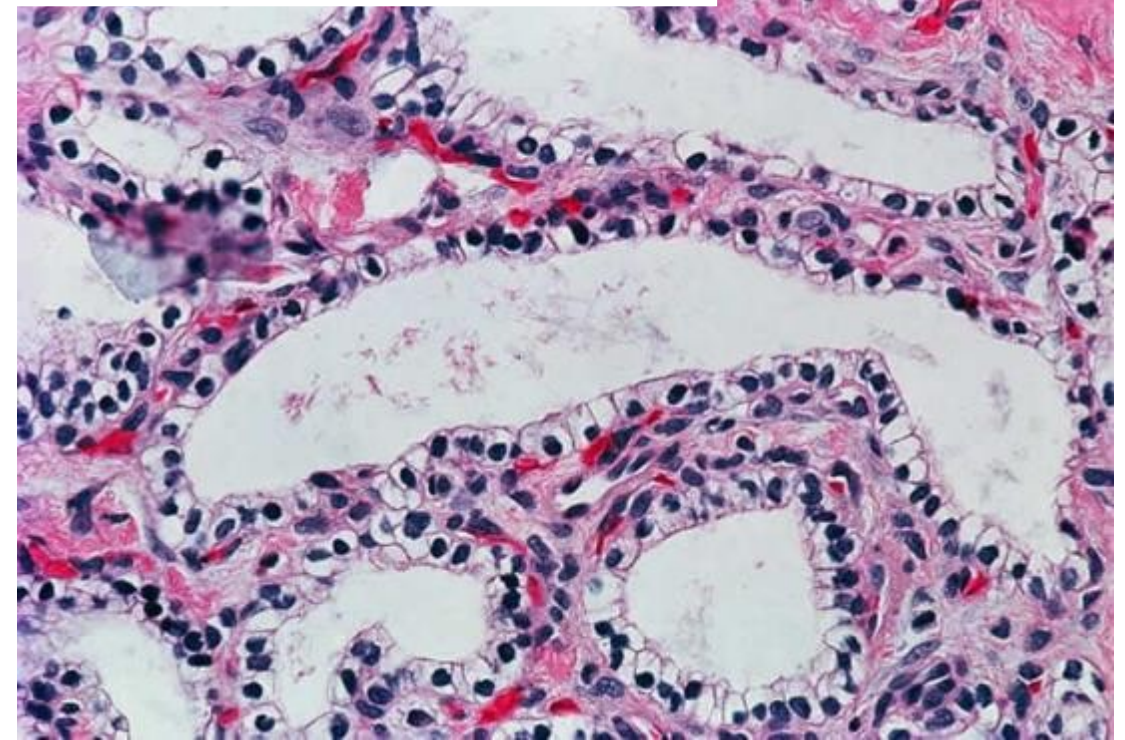


I-Cystic Tumors

a. Serous Cystadenoma (Usually BENIGN)



microcysts



<http://oac.med.jhmi.edu/cpc/images/cpc5/32.jpg>

- **Glycogen-rich cuboidal cells**
- **Surrounding small cysts**

Tumours of Pancreas



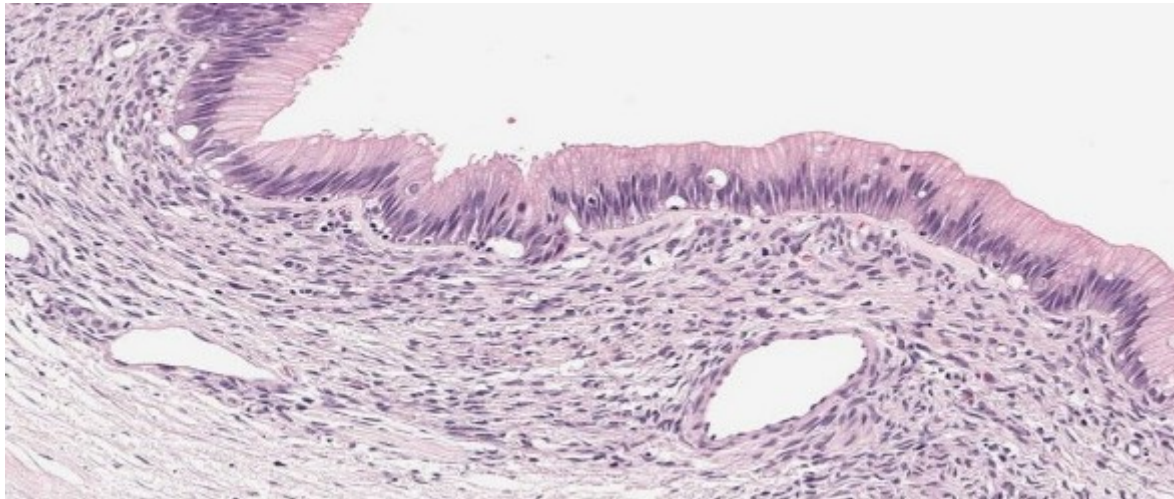
I-Cystic Tumors

b. Mucinous Cystadenoma : > women



<https://ars.els-cdn.com/content/image/3-s2.0-B9780323340625000595-f059-p12-9780323340625.jpg>
mucin

**Mucinous
Cystadenocarcinoma
(if malignant with
invasion)**



- **Single layer of tall mucin-producing cells**

Tumours of Pancreas



II. Ductal Adenocarcinoma

- **Highly fatal**
- 60-80
- Arise from **ductal epithelium**
- **Predisposing Factors:**
 - **Diabetes Mellitus**
 - **Chronic Pancreatitis**
 - **Smoking**
- **Investigations**
 - Increased serum amylase, lipase, alkaline phosphatase,
 - **Elevated tumour**



https://cdn.clipart.email/a1acb6bb24727f7e609b4ff08565bb33_lifetime-learning-diabetes-self-management-



http://www.stitch.luc.edu/lumen/MedEd/Radio/curriculum/Mechanisms/MHD/Chronic_pancreatitis.jpg

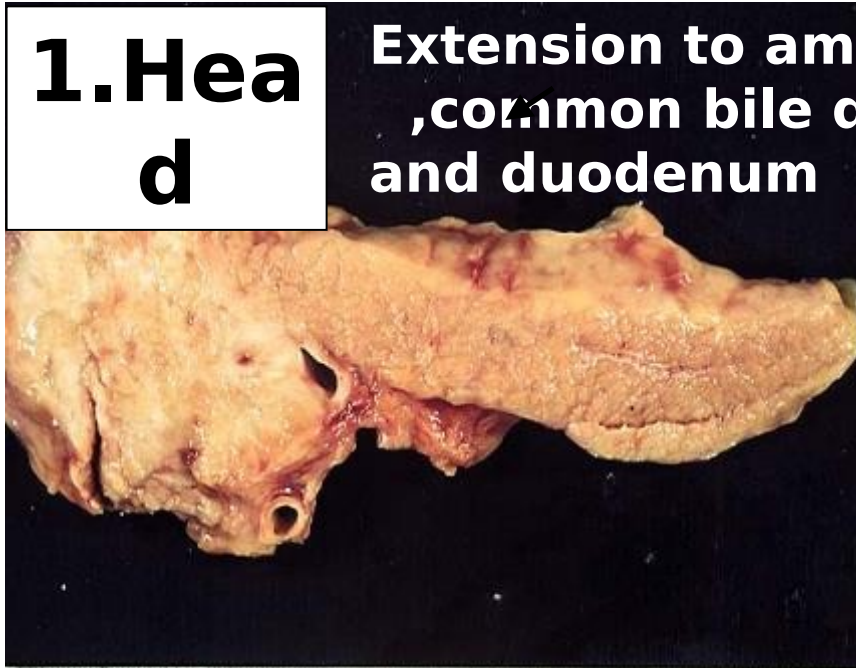
Tumours of Pancreas



Sites

1. Head

Extension to ampulla, common bile duct and duodenum



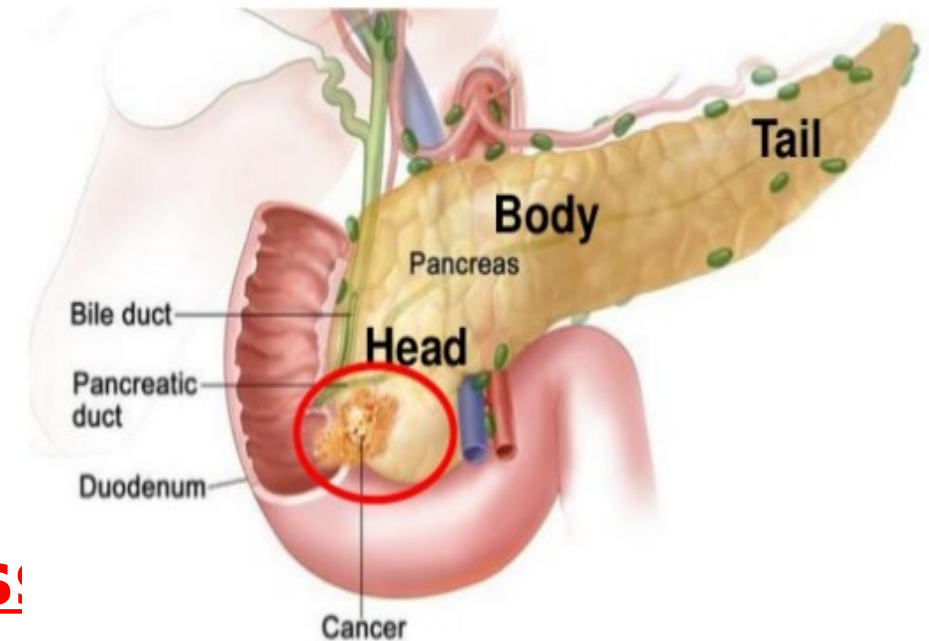
<https://image.slidesharecdn.com/cpc-4-2-3-hbs-biliarydis-pathlec-130519173234-phpapp02/95/pathology-of-biliary-disorders-64-638.jpg?cb=1368985184>

II. Ductal Adenocarcinoma



Do you think it is early or lately detected?

What is the first sign



Early detected due to Invasion of ampullary region leading to Progressive obstructive JAUNDICE

<https://www.drkodurioncology.com/wp-content/uploads/2018/05/Screenshot14.png>

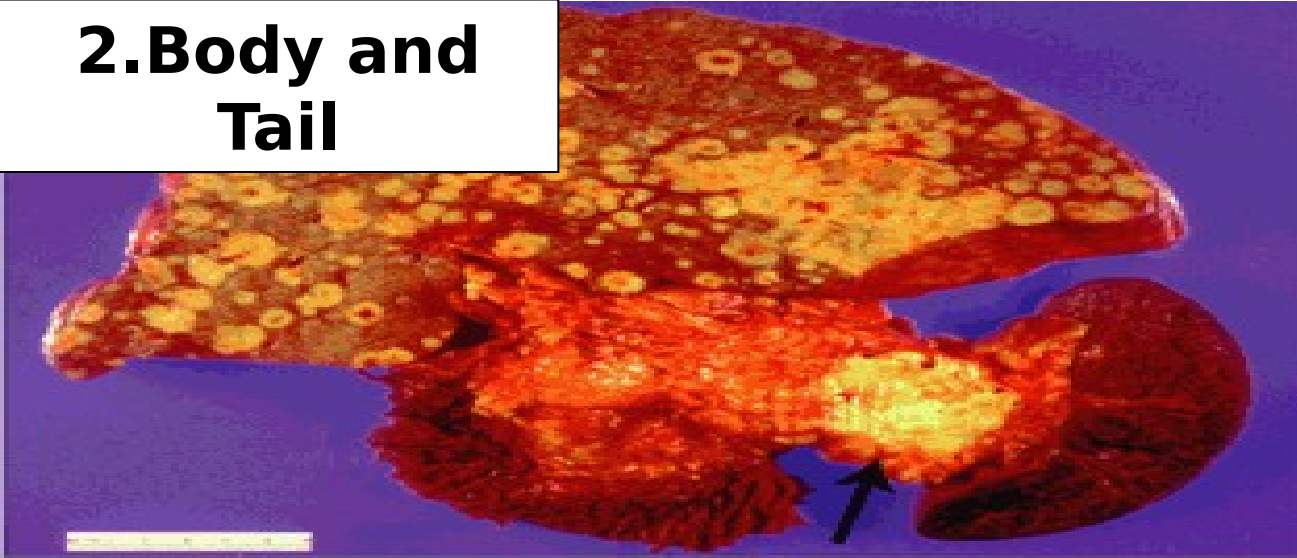
Tumours of Pancreas



II. Ductal Adenocarcinoma

Sites

2. Body and Tail



<https://m1.paperblog.com/i/31/319600/el-cancer-pancreas-es-uno-mas-letales-L-hTTq2c.jpeg>

Which is worse, cancer head or body & tail? Why?



Tumours of body and tail:

Silent growth and metastases may be first presentation as there is no obstruction of biliary tract

Tumours of Pancreas



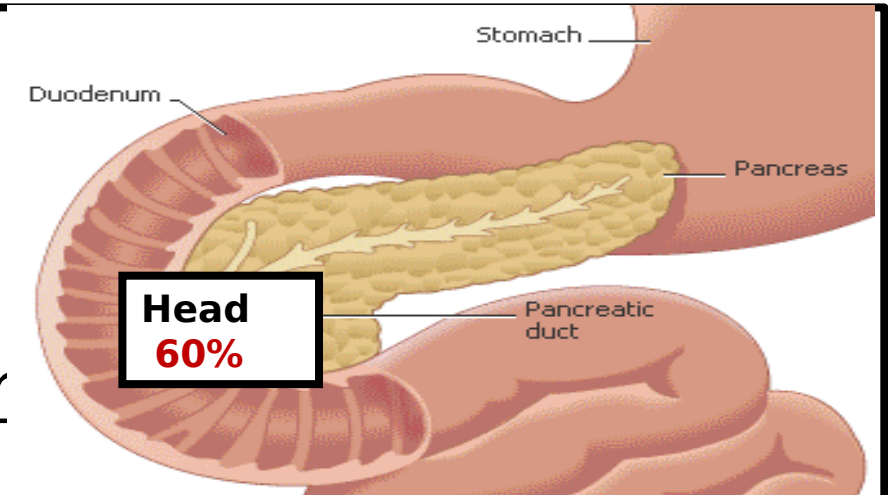
II. Ductal Adenocarcinoma

Gross:

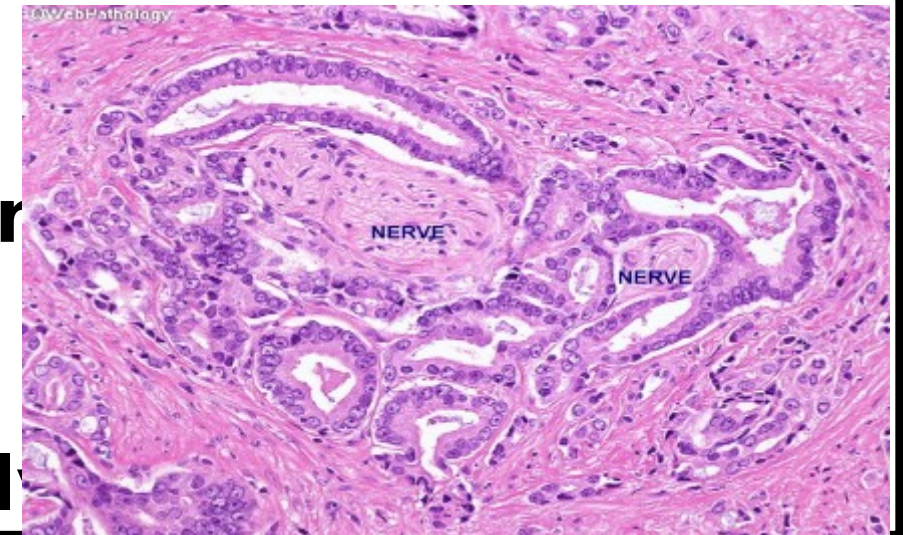
- Gritty hard mass
- **Site :**
 - Head of the pancreas is most common

Mic :

- **Adenocarcinoma**
- **DESMOPLASTIC reaction is extensive**
- **Perineural invasion**
- **Invade peripancreatic extensively**



https://www.mayoclinic.org/-/media/kcms/gbs/patient-consumer/images/2013/11/15/17/40/ds00165_-ds00371_im02350_r7_pancreatitisthu.jpg.jpg

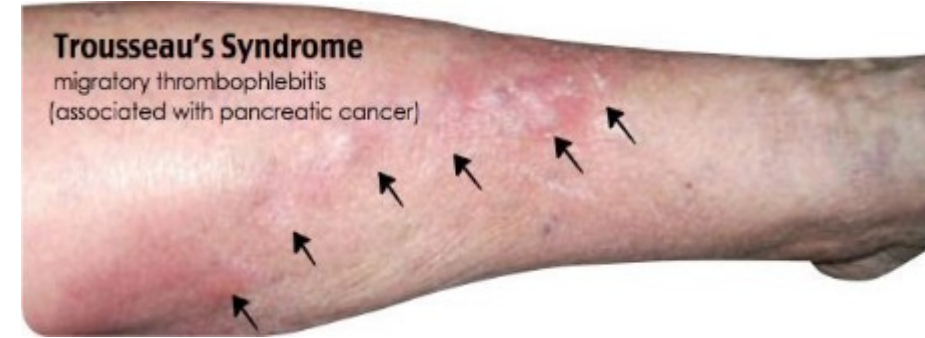
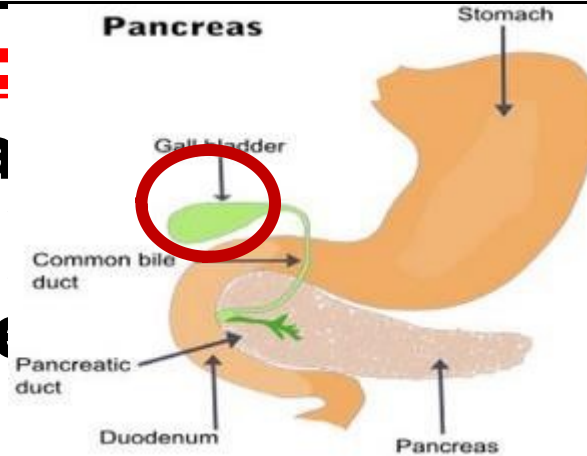


II. Ductal Adenocarcinoma



C/P & Complications :

- Pain radiating to back
- Jaundice (If in head)
- Palpable gall bladder
- Silent & metastases may be first presentation (if in body or tail)
- **Paraneoplastic syndrome:**
 - Multiple thrombosis in different sites
 - (due to procoagulants secreted by tumor)**known as:**



https://pbs.twimg.com/media/C9O_J6yXYAAxhi1.jpg



<http://healthsurgical.com/wp-content/uploads/2016/01/thrombophlebitis-picture.jpg>

Ductal Adenocarcinoma (Quiz)



Complete the following :

1. Tumour markers elevated in pancreatic carcinoma are
.....&
2. Multiple thrombosis in different sites that may associate
pancreatic carcinoma is known as
.....or
.....
and is due to.....
3. Cancer of body and tail of pancreas are worse than cancer
head due to

Ductal Adenocarcinoma (Quiz)

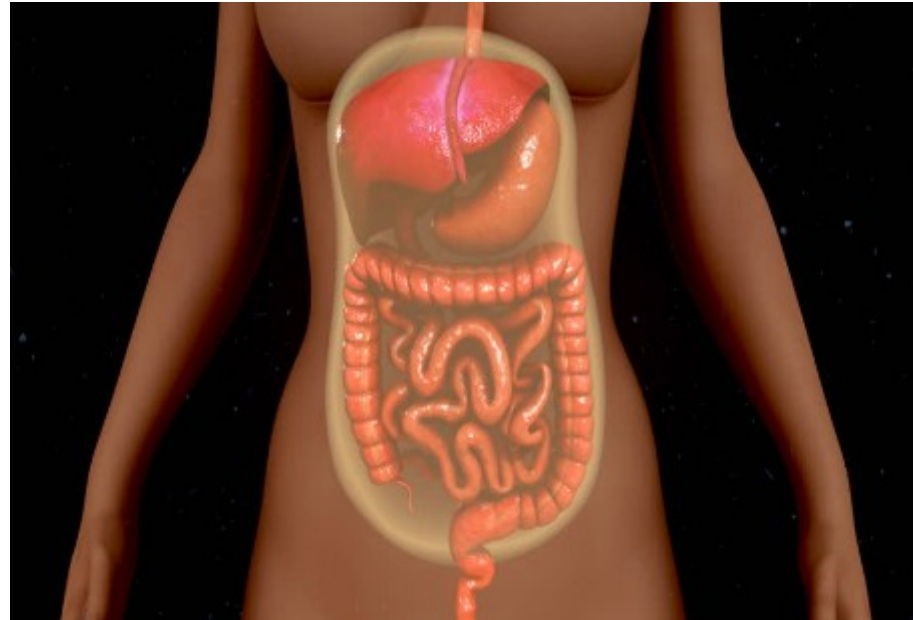


Complete the following :

1. Tumour markers elevated in pancreatic carcinoma are **CEA & CA19-9**
2. Multiple thrombosis in different sites that may associate pancreatic carcinoma is known as **Migratory thrombophlebitis or Trousseau's syndrome** and is due to **procoagulants secreted by tumor.**
3. Cancer of body and tail of pancreas are worse than cancer head due to **silent growth -metastases may be first presentation as there is no obstruction of biliary tract**



Peritoneum



https://www.google.com/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwj4Ijqo7NnjAhWpx4UKHQP_Ak4Qjhx6BAgBEAM&url=https%3A%2F%2Fwww.shutterstock.com%2Fvideo%2Fclip-16518682-peritoneal-dialysis&psig=AOvVaw0ymHRa5Lf1QuF1nBmFT1cR&ust=1564479933904310

Peritonitis



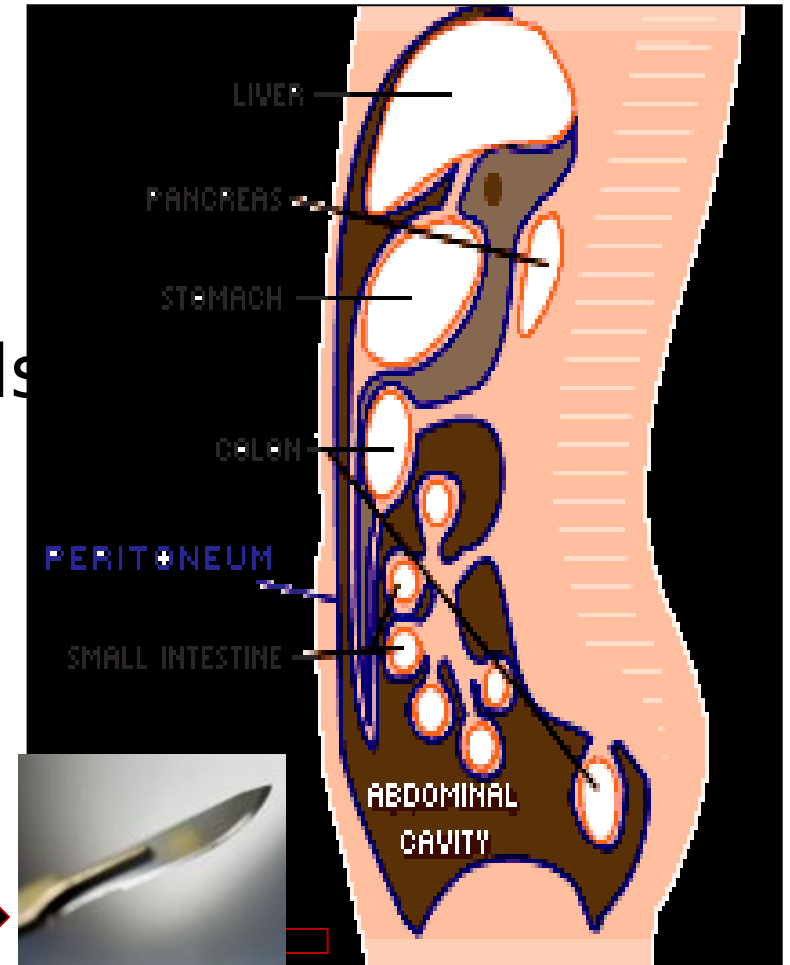
Types and causes

I. Acute Peritonitis (localized/diffuse)

1. Inflammation of abdominal organs
2. External (Postoperative or stab wounds)
3. Blood borne

II. Chronic Granulomatous

4. Infectious : TB-Fungus
5. Non-infectious: Crohn's -sarcoidosis



Peritonitis



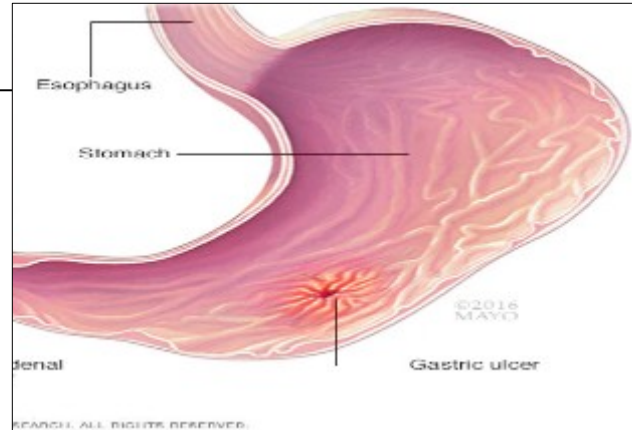
Inflammation of abdominal organs +/- perforation eg:

Rupture of amoebic liver abscess



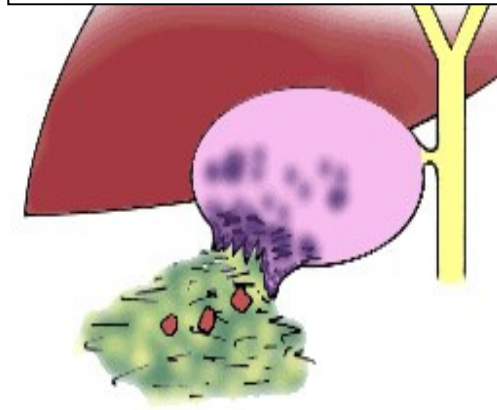
<https://www.mountsinai.org/health-library/diseases-conditions/amebic-liver-abscess>

Perforated GIT



https://www.mayoclinic.org/-/media/kcms/gbs/patient-consumer/images/2013/11/15/17/42/ds00242_-ds000958_im02752_r7_ulcersthu.jpg.jpg

Perforated gall bladder



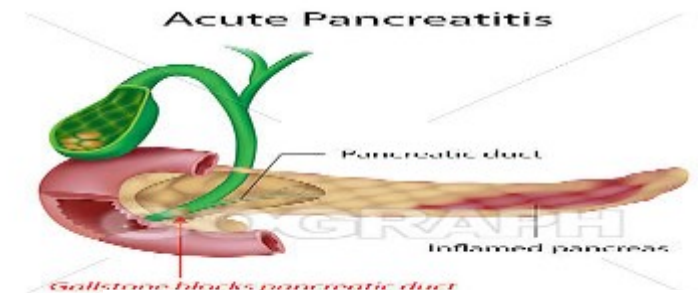
https://www.wikisurgery.com/Basic_laparoscopy:_Cholecystectomy_04.3.1.4_Free_perfor

APPENDICITIS (inflammation of the appendix)



<https://universityhealthnews.com/media/appendicitis-symptoms.jpg>

Acute suppurative appendicitis



https://comps.gograph.com/acute-pancreatitis_gg63652208.jpg

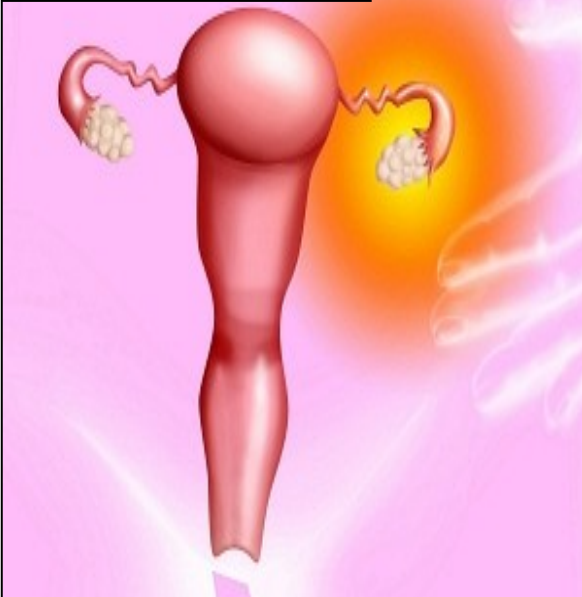
Pancreatitis

Peritonitis



Inflammation of abdominal organs +/- perforation

Salpingitis

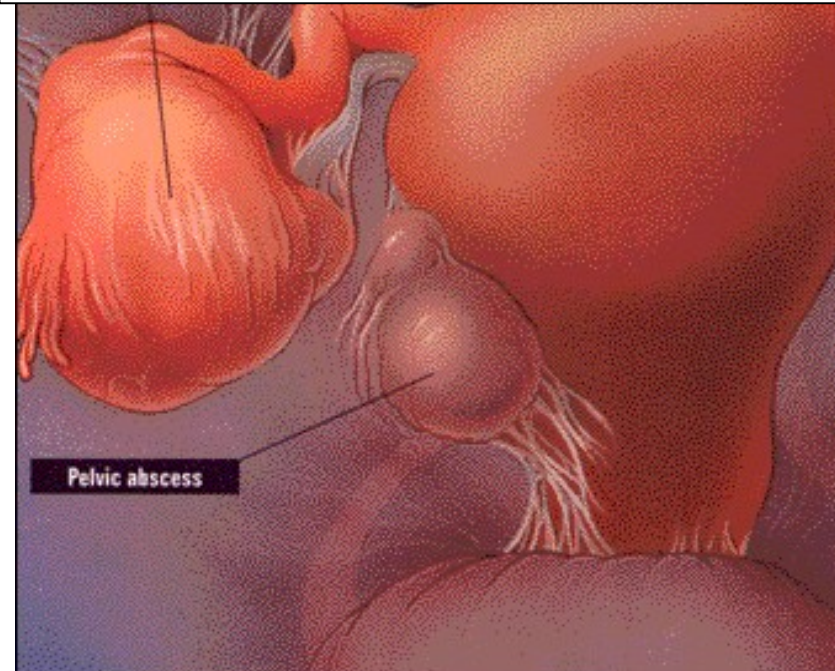


Ruptured Ectopic



Fallopian Tube

Tubo ovarian abscess

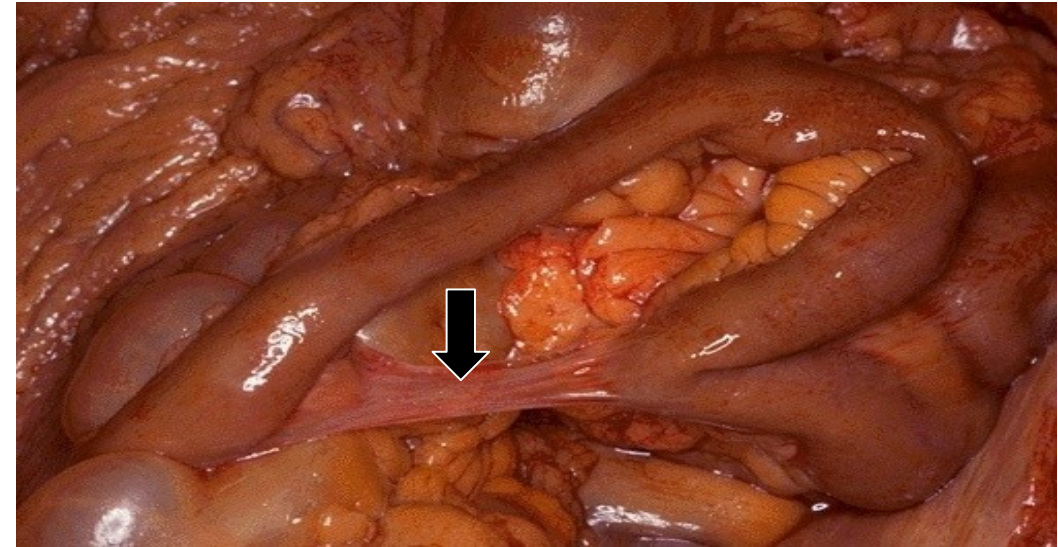


Peritonitis



Fate of Acute Peritonitis

1. Complete cure (adequate treatment)
2. Acute toxemia
3. Paralytic ileus
4. Fibrosis and intestinal adhesions
5. Residual foci of suppuration (new infection)



<https://webpath.med.utah.edu/jpeg4/GI030.jpg>



Cornell University/PLADC

Peritoneal Tumours

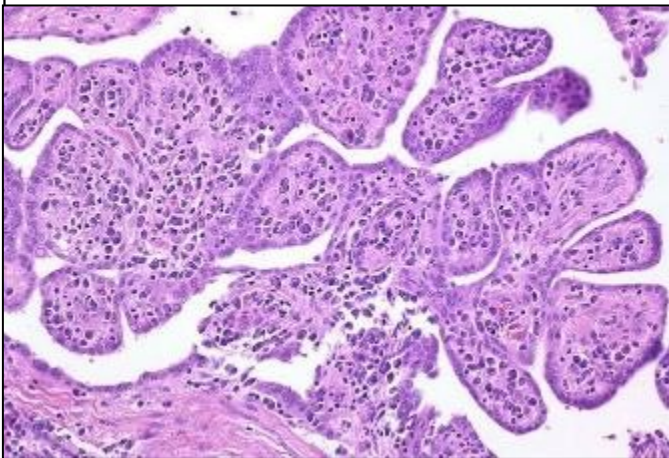


- **Benign:** rare
- **Malignant:**
 - Mesothelioma
 - Retroperitoneal sarcomas
 - **Metastases**

Mesothelioma



Benign Solitary	Diffuse Malignant
<ul style="list-style-type: none">• Small papillary structure• incidentally found during surgery	<ul style="list-style-type: none">• Multiple plaques or nodules scattered over peritoneum• Rare• ASBESTOS related• Old males



Diffuse Malignant Mesothelioma



Gross:

Multiple plaques or nodules scattered over visceral and parietal peritoneum



<https://image.slidesharecdn.com/tumoursoftheperitoneum-170413052610/95/tumours-of-the-peritoneum-12-638.jpg?cb=1492061259>

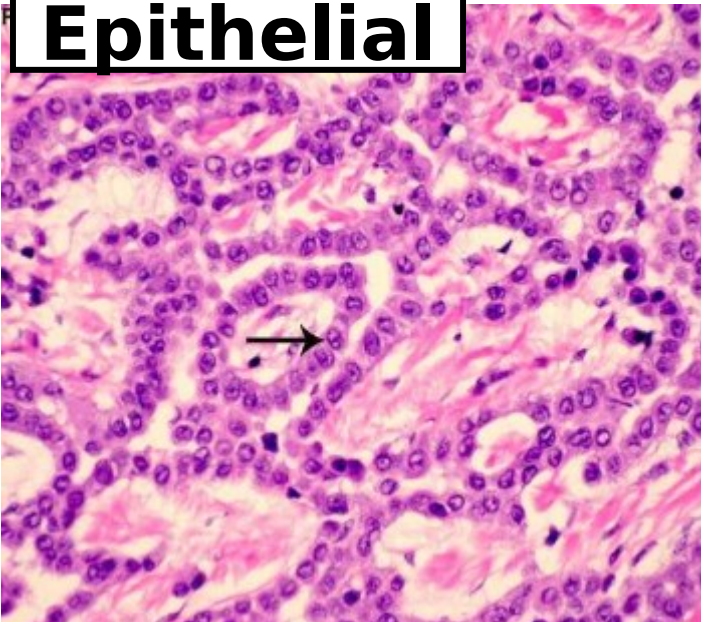
Diffuse Malignant Mesothelioma



Mic :

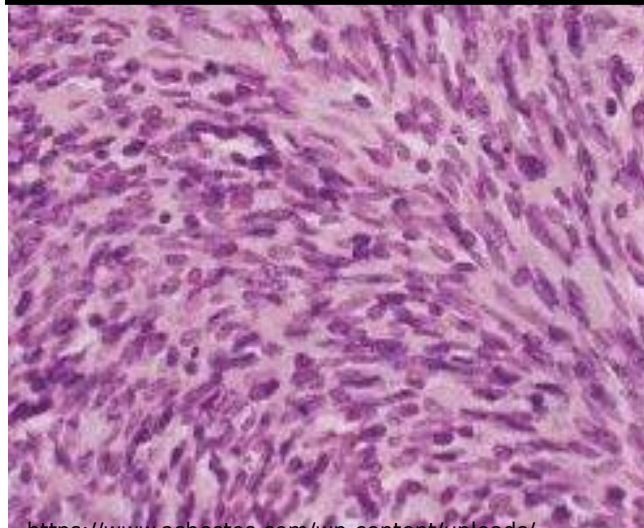
- **Epithelial component : malignant cells with Papillary & glandular features**
- **Sarcomatous component : Spindle sarcoma**
- **Biphasic**

Epithelial



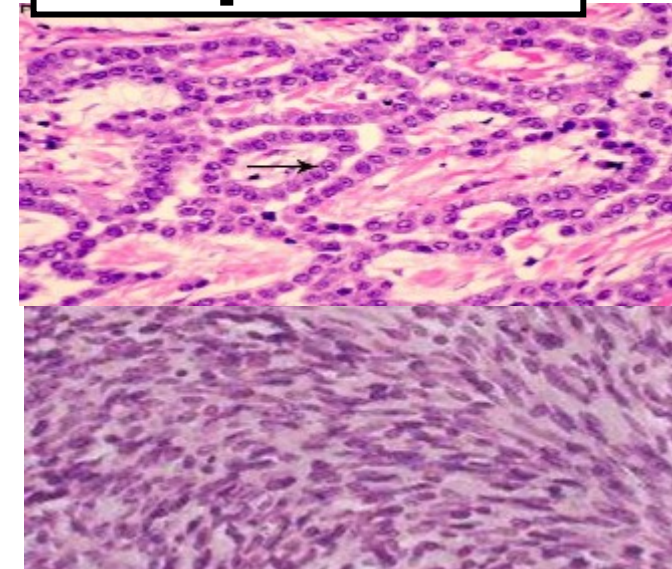
[https://www.pathpedia.com/education/eatlas/histopathology/mesothelia/malignant_mesothelioma/malignant_mesothelioma-pleural-\[2-pl005-2\].jpeg?](https://www.pathpedia.com/education/eatlas/histopathology/mesothelia/malignant_mesothelioma/malignant_mesothelioma-pleural-[2-pl005-2].jpeg?)

Sarcomatous



https://www.asbestos.com/wp-content/uploads/xsarcomatoid-mesothelioma-cells-250x250-c-default.jpg.pagespeed.ic.h_gfTD-xB9.jpg

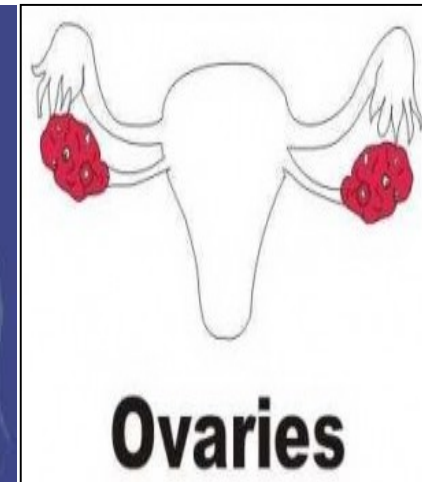
Biphasic



Secondary Tumours



- Commoner than primary
- Usually with hemorrhagic ascites
- Common from ovary, pancreas, breast, GIT



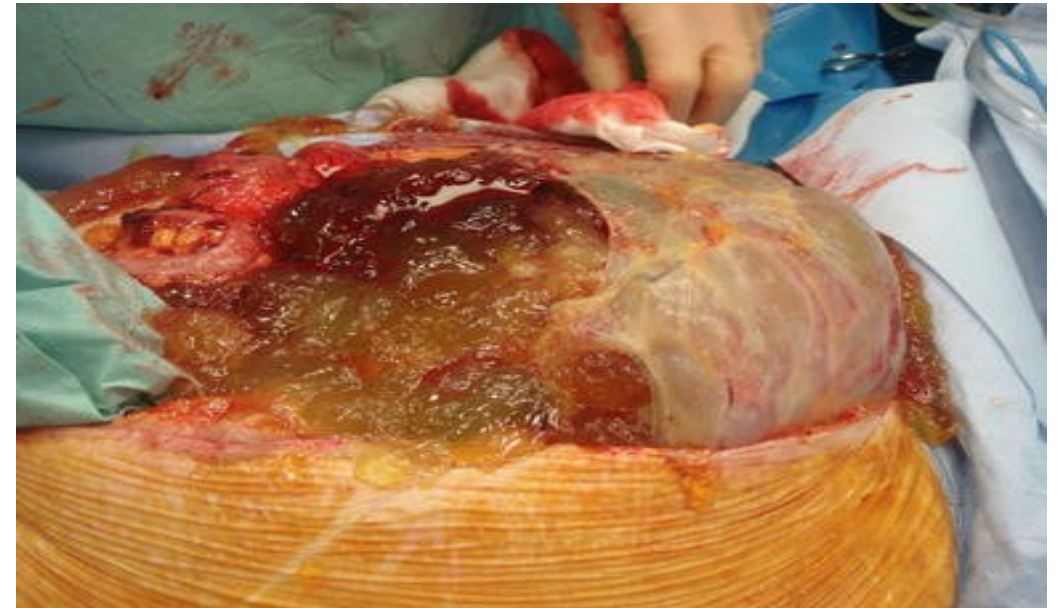
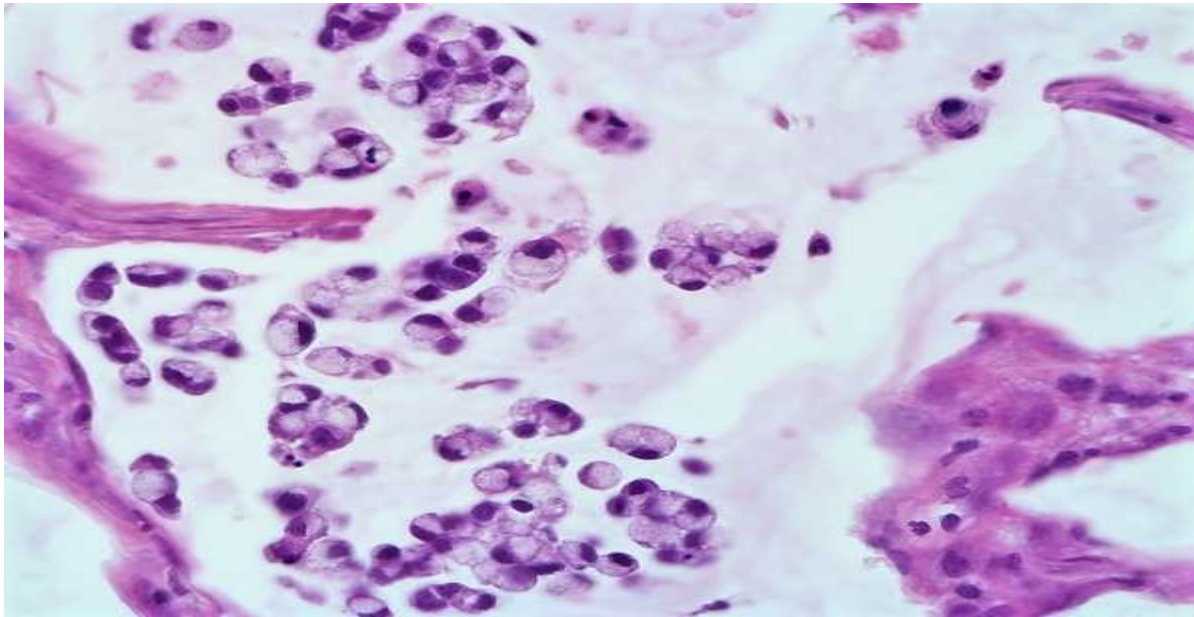
Pseudomyxoma Peritonei



Peritoneal extension of mucinous neoplasms (ovarian ,pancreatic, GIT)

↑ gelatinous mucinous material in peritoneal cavity + neoplastic cells

↑ adhesions and intestinal obstruction





Which of the following may explain the pathogenesis of Pseudomyxoma Peritonii?

- a. A complication of acute hemorrhagic pancreatitis
- b. A myxomatous degeneration of peritoneum
- c. A biphasic tumour composed of epithelial & sarcomatous elements
- d. A peritoneal extension from mucinous tumour



Which of the following may explain the pathogenesis of Pseudomyxoma Peritonii?

- a. A complication of acute hemorrhagic pancreatitis
- b. A myxomatous degeneration of peritoneum
- c. A biphasic tumour composed of epithelial & sarcomatous elements
- d. **A peritoneal extension from mucinous tumour**



- Pancreatic tumors classification
- Pancreatic carcinoma :predisposing factors – clinical picture – elevated markers – morphology
- Pancreatitis: acute & chronic -causes
- Mesothelioma
- Pseudomyxoma peritonei

Suggested Textbook



Neil D. Theise. Pancreas In Robbins and Cotran pathologic basis of disease, 9th edition. Kumar, Abbas & Aster (eds). Elsevier Saunders.

Pages 680 -690

